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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/849,263 | 05/20/2004 | Koichi Kimura | Q81713 | 7429 |
| 23373 | 7590 | 12/14/2005 | EXAMINER | |
| SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037 | | | | TRA, TUYEN Q |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2873 | |

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------|--------------------------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/849,263 | KIMURA, KOICHI <i>[Signature]</i> | |
| | Examiner Tuyen Q. Tra | Art Unit 2873 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 27 September 2005.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-14 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-14 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 25 March 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, 5 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Colgan et al. (U.S. Pat. 6,377,233 A).

a) Within respect to claims 1 and 9, Colgan et al. discloses icromechanical display and fabrication method Figure 30 comprising of a transparent substrate (200); a pixel drive circuit provided on the transparent substrate (items 157, Figure 22) to form an area other area than the light-transmission area (drive circuit 157 is formed on the transparent substrate 200, but off from transmissive area of sustrate), a transmissive light modulation section (deformable mirror 218) including a micro-electromechanical element (item 215), the transmissive light modulation section being controlled by the pixel drive circuit (157, Fig. 22) and being provided above the pixel drive circuit (see Fig. 27, 28, 31).

Art Unit: 2873

b) Within respect to claims 3, 5 and 10-12, Colgan et al. discloses an electrostatically actuatable light modulating device and further with method comprising of a first silicon layer (item 10, a glass such as silicon based glass), an insulation layer (item 39) and a second silicon layer in this order, the method comprising: forming a pixel drive circuit (item 157) on the insulation layer (204), the pixel drive circuit including at least part of the second silicon layer; eliminating the first silicon layer while a portion other than the first silicon layer is supported; attaching a transparent substrate to the location from which the first silicon layer was removed; and forming a transparent light modulation section including a micro-electromechanical element above the pixel drive circuit.

b) Within respect to claims 13-14, Colgan et al. further discloses wherein eliminating the first silicon layer comprises removing a thickness of the first silicon layer across a surface of the first silicon layer; wherein eliminating the first silicon layer comprises removing a thickness of the first silicon layer across a surface of the first silicon layer.

d) Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Huibers (U.S. Pat. 6,377,233 A).

Huibers discloses a double substrate reflective spatial light modulator with self limiting micro-mechanical elements Figure 3B comprising of a transparent substrate (circuit substrate 34, col. 17, lines 22-23); a pixel drive circuit provided on the transparent substrate (items 36, Figure 3B) to form an area other area than the light-transmission area (drive circuit 36 is formed on the transparent substrate 34, but partially occupies the transmissive area of circuit substrate 34), a transmissive light

modulation section (mirror 48) including a micro-electromechanical element (item 48), the transmissive light modulation section being controlled by the pixel drive circuit (36, Fig. 3B) and being provided above the pixel drive circuit (36).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 4, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colgan et al. (U.S. Pat. 6,377,233 A), as applied to claim 1 above, in view of Johnson (US 6,498,685 B1).

Colgan et al. discloses icromechanical display and fabrication method Figure 30 comprising of a transparent substrate (200); a pixel drive circuit provided on the transparent substrate (items 157, Figure 22) to form an area other area than the light-transmission area (drive circuit 157 is formed on the transparent substrate 200, but off from transmissive area of sustrate), a transmissive light modulation section (deformable mirror 218) including a micro-electromechanical element (item 215), the transmissive light modulation section being controlled by the pixel drive circuit (157, Fig. 22) and being provided above the pixel drive circuit (see Fig. 27, 28, 31).

Colgan et al. does not teach a microlens array provided at an entrance side. Within the same field of endeavor, Johnson disclose a Multi-stage microlens array with teaching of microlens at the entrane side of the transmissive area (Fig. 5A)

Art Unit: 2873

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the electrostatically actuatable light modulating device with the transmissive area such as disclosed by Koehler et al., and with microlens array at the entrance of transmissive area such as discloses by Johnson, for purpose of focusing light to light-transmission area.

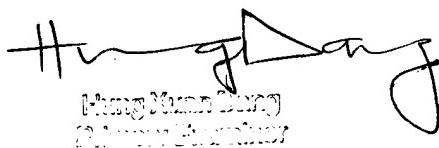
Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyen Tra whose telephone number is (571) 272-2343. The examiner can normally be reached on Monday to Thursday from 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky L Mark, can be reached on (571) 272 - 2333. The fax number for this Group is (571) 273-8300.

TT

November 30, 2005



Hung Xuan Tran
2873 Art Unit